#2

Personal Form

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Puerperal Fever

This is a disease peculiar to lying-in women, & may be regarded as one of the most dangerous & fatal affections, to which the puerperal condition is liable. Its name is very appropriate, since it occurs exclusively to females soon or at least in a few days after delivery

Although it has appeared in all seasons, climates & ages, (Hippocrates speaks of it) yet the father of our Science & many of the subsequent writers, entertained erroneous pathological views concerning it. It had no determinate station among other diseases, till Dr. Strother of London wrote on it in the year 1716. Though Hippocrates & many of the most celebrated authors down to the present time correspond very nearly in their discription of its most prominent symptoms, & the great danger with which it is attended, yet notwithstanding, their sentiments as to its true nature, & the most appropriate mode of treatment are very diver-

-sified.

It may be well here to submit my views of the path-ology of puerperal fever, & tho' I expect to advance nothing new on the subject, yet certainly a proper understanding of the nature & constitution of the disease we are treating, is a matter of vital importance, to the happy result of our management.

1st I take it as a conceded point, that all organs or parts of organs suffering a condition of debility, are predisposed to the accession of disease, in a state of action above the standard of health, or below that standard.

2nd It is a second law of nature, that parts so debilitated are liable to accumulations of circulating fluids in a proportion, beyond what naturally belongs to them.

3rd Such a condition being established, an action takes place, in such vessels which is sympathetically extended to the neighboring vessels, (& finally to the heart itself) whose object is the attainment, of an equal distribution of the circulation

Let us now consider the condition of the female before & after her labour.

For nine months previous to her accouchement, we find a set of vessels gradually unfolding themselves, & extending to an enormous degree; an Uterus in the unimpregnated state, from being a dense, tough, & apparently not highly vascular body, in the progress of nine months, has attained a magnitude incomparably greater than its unimpregnated size, & has become little else, than a congeries of vessels, many of which are so large, as to have obtained, the significant appellation of Sinuses.

I do not know if any calculation has been made as to the quantity of blood, which may be circulating in its vessels, while at its maximum; but I apprehend that ℥x would be a small allowance. Here then we see an important fact, (ie) the female chylopoietic organs, have assumed a habit of affording a preternatural supply, to the organ of sanguification — Placing the female system in the condition (in ordinary circumstances) called a plethora —

In order to carry on the extended circulation, which has taken place during gestation, the heart & arteries are forced to exert themselves, to a degree which may be almost called morbid.

Since we find in the generality of women pregnant, an accelerated & tense pulse, (which is far from its natural healthy condition) & blood which on being drawn from a vein in the arm, has that peculiar character of inflammatory action, which is denominated size or buff coat.

The constant pressure of a body which is not natural to the healthy woman (that is a gravid uterus) has produced many derangements of position, in the abdominal viscera; affecting the freedom of motion as well as the regular arrival of a proper supply of arterial blood, & when arrived a regular return of it by the veins — Hence it is probably diverted to other organs in a quantity beyond what is requisite. The hepatic system & the Spleen are peculiarly liable to be thus oppressed by increased afflux of blood & probably the peritoneal lining of the abdomen also. The kidneys are placed in this unsafe state if the uncommon

supply, occasions a greater secretion of urine than is natural, this evacuation is liable to be delayed by pressure on the ureters, probably one cause of the pains, which pregnant women so often feel in the loins & back.

The brain is not less liable to be overloaded by this undue distribution of blood, since the aorta must be in some degree, hindered of its functions, giving a natural tendency to the carotids & vertebral arteries, to carry more than their share

The lungs must be affected by the gravid uterus, since in its last stages, the diaphragm has not free play.

Let us now recapitulate, what we have said of the state of the female before delivery.

1.st She contains in her abdomen a (may I not say extraneous) body more than sixteen times, its natural size

2.nd This body requires, upwards of twenty times the quantity of blood natural to it; to supply which,

3.rd She has acquired a plethoric habit

4.th The heart & arteries are forced into a condition, which may be called their inflammatory action.

5th There are derangements of position in the abdominal viscera, which are truely of a morbid tho' accidental character. 6th Involving derangements in the circulating distribution in, 7th Intestinal System & Spleen – 8th Hepatic – 9th Urinary – 10th Cephalic – 11th Pulmonary Systems.

Thus I have given a tabular view of the state, in which the female is placed before her delivery; by which we can see at a glance, that great changes ensue immediately, after delivery.

After having agonized; her womb has expelled its burthen, & taken its position again within the walls of the pelvis; her bowels have resumed their posture in the abdomen – The liver, spleen, stomach & kidneys, are freed from a stranger oppressor: she has lost not ℥viij. of blood or she has flooded severely. The brain is no longer crowded with blood. This is a great change from her situation, twelve hours ago. Let us examine its results.

1st The sinuses of the womb are annihilated, yet the spermatic & uterine arteries are left with the habit of carrying a certain quantity of blood.

2.nd The circulation of the intestines & other abdominal viscera is somewhat changed, since they have changed their posture.

3.rd The heart & arteries which have been in a state of excessive action during labour, are perhaps calmed by the removal of the irritating cause, or by the loss of some of their fluid contents.

4.th The whole frame is wearied & exhausted by long & violent exertions, changes of distribution have taken place in the blood, which without yet shewing any actual injury, are yet to be regarded like the unequal & irregular tumbling of the ocean before it is agitated by a gale. This is the time for the physician to be warned & to take necessary precautions, that his patient's life of which he may be called the pilot, be not sacrificed to his heedlessness. It is only necessary to apply the Epidemic influence of a morbid atmosphere — The heat & unventilated rooms of a crowded Hospital — stimulating diet — Cold air, moisture or any one of a variety of causes which might be named; to put an end to this calm — The vessels of the womb,

its peritoneal covering, or the peritoneum of any other part, may become congested — The system makes an effort to increase the action of the part — A chill, a sympathetic fever, & in one hour the whole system is inflamed — Let us recapitulate —

1.st There is according to my first proposition, local debility which predisposes the weakened part to an,

2.nd unnatural accumulation of blood which excites an increased action which is 3.rd extended to the heart — Let this be once the case & if the attack is not at once cut short, the increased action of the heart will be as apt as not to increase the mischief of accumulation & we have an inflammatory fever or in other words local inflammation with symptomatic fever.

I have thus endeavored in a concise manner to lay before you my pathological view on the subject of puerperal fever — From these considerations, I am induced to believe it is always a sthenic disease in the first instance, though it may soon assume an asthenic character, if not checked —

Puerperal Fever may be divided like most other dis-

-cases into 3 stages. —

The first stage is that of local congestion — The second, of increased action — & the third of collapse or exhaustion — Let me now consider the nature of these three states.

Symptoms of 1st stage,

After an imprudent exposure to cold or wet, or the use of stimulating food or drinks or too tight bandaging or any other of the various causes of inflammation, we see a shrinking of the surface & retirement of the blood to the recesses of the body — This is expressed by 1st paleness of the countenance, coldness of the feet, nose & hands, sighing, yawning, & some sense of chilness — There is a certain appearance of blueness of the cuticle, as if the florid blood of the arteries, did no longer arrive in sufficient quantity to its vessels — The insensible perspiration is diminished.

2nd There is a sense of fulness or suffocation about the Epigastrium, with some head ache — The heart has to move a load which has suddenly fallen on it —

3rd Presently this is succeeded by a regular chill,

or horror amounting in some cases to an ague — The woman shakes the bed on which she lies — There may be a disposition to void urine & if she rises for this purpose, the coldness & shivering is increased — Pains in the limbs & back are felt & soon afterwards some wandering pains, shoot thro the belly.

These are the most prominent appearances of the first or congestive stage of the puerperal fever & are all accountable for on the common principles of Intermittent Fevers. It is during this state of recession of blood from the face & its accumulation in the centre of the body, that the foundation stone of the case is laid — The debility which predisposes to its reception is already formed as I have before said & invites the attack.

This agrees with my proposition first, & may last a greater or less time; commonly from half an hour to an hour; It is succeeded by the Symptoms of 2d. or Excitive Stage

These are 1st. A gradual diminution of the sense of cold & of the shivering — 2nd. Increased pain & tenderness of the abdomen on pressure, a small tense or a full pulse, flushing & turgescence of the face, increased temperature over the whole body.

As to posture, she generally is found on her back, with her knees drawn up & dreads the slightest motion, as the pain is increased, by any tightness of the abdominal muscles – The lochial discharge, begins to flow in small quantity & is finally interrupted, this happens sooner or later, in proportion to the violence of the inflammation. It stops the formation of milk or prevents its going on if it is established & the breasts become soft & flaccid. The bowels are most commonly slow, the urine is passed with pain, since the peritoneal coat of the bladder is involved in inflammation; It is very high colored.

These symptoms shew a highly excited condition of the body, marking the existence of extensive peritoneal inflammation – The stage I have just discribed may be of longer or shorter duration, or it may just appear & the patient from the violence of the attack is hurried immediately to the Third or Stage of collapse or Exhaustion

The belly grows round, full & unyielding, a state preceded & accompanied by borborygmi –

The countenance assumes a haggard, distressed & sometimes a despairing aspect. The eyes are sunk & have assumed a muddy appearance — The lips are dry & the tongue becomes loaded with sordes, which accumulates also on the teeth — The pulse becomes feeble & easily compressible; but of an increased velocity, often to 140-50-60 beats in a minute — The patient begins to be less constant in the expression of her feelings, some wildness & inattention is apt to come on, & finally delirium is complete — She only answers when called loudly — Picks at the bed clothes — Has subsultus tendinum, becomes comatose; Has involuntary discharges of feces & urine, sinks & dies —

Such is the course of the 3.rd stage of puerperal fever — From the rapid manner in which the two first are generally passed through & from the tardiness with which medical aid is generally procured, it is probably that this stage has formed the basis of the Histories, we have long had of the disease. It is that has made it an asthenic disease according to most modern authors; & true enough, if we were only to see puerperal fever in its

3rd stage; we should never have occasion to use depleting remedies—

I must contend from the view I have taken of the subject, that it is an inflammatory fever, of the most violent & excited grade; passing rapidly over its first & second, sometimes missing the second, the powers of nature being unable to overcome the congestion, or in other words, being unable to react, & assuming in its 3rd stage, the typhoid appearance, which may be so easely accounted for, if we only cast a glance at organs of vital importance in the animal economy, suffocated & oppressed with excitement & finally perishing under a rapid & extensive mortification

Diagnosis— It is the duty of every practitioner when called to a puerperal woman, to be able to discriminate this disease from a number of others which bear a close resemblance in many of their symptoms; but by a minute examination & comparison of all the symptoms, we may generally distinguish it. It is requisite we should distinguish it from milk fever, afterpains, the

ephemera, called weed & inflammation of the bladder.

Dr. Armstrong having given us some of the best diagnostics, I shall quote the principal symptoms which characterize it.

The milk fever is known, by throbbing, irritation, & enlargement of the breasts, & by the pain being confined to the mamma, during the continuance of the febrile symptoms — Whereas in the puerperal fever, pain begins & continues in the abdomen, while the breasts for the most part, are much more flaccid than natural — Besides there is considerably more lassitude & weariness, a more urgent nausea & sickness & a quicker pulse in the commencement of the puerperal than of the milk fever —

In after pains, pressure on the belly can be borne without uneasiness. There is no accession of fever, nor an accelerated pulse, the pains resemble those of labour, being succeeded by intervals of complete ease — On the contrary in puerperal fever the belly is sore to the touch, & pressure always aggravates

+ Armstrong p. 21.

the pain; there is accession of fever, marked by uncommon rapidity of pulse & continual pain.

The weed is ushered in by strong rigors, followed by heat, thirst & general excitement; all the symptoms terminating within 24 or 30 hours by profuse perspiration: the abscence of abdominal pain & irritation is sufficient to prevent the mistake of this disease for puerperal fever.

Inflammation of the bladder is distinguished, by drawing off the water with a catheter, relieving the symptoms—

Mr. Wolfe considered the appearance of the alvine evacuations, as one of the best diagnostics. Whenever, therefore, he suspected the disease, he gave a cathartic & if the discharges were very copious, resembling coffee grounds, thick, & of a fetid smell he was always confirmed in his opinion of its nature.+

The chief pathognomonic signs, then are abdominal pain & soreness, short anxious breathing, uncommon quickness of the pulse, increased temperature, anorexia

+ Armstrong p 25.

prostration of the vital powers, suppression or diminution of the milk & lochia & an unnatural condition of the excrements —

Prognosis — It is favorable if after V.S. the pain begins & continues gradually to decrease; if the countenance assumes a more cheerful appearance; if the pulse becomes slower, fuller & softer; if the alvine discharges are of a better color; if the lochia & milk return; if the belly becomes softer & not so much distended; if a general & gentle perspiration makes its appearance & the patient is able to extend the legs without pain — On the contrary, we are to be more earnest in our duty, if the pain after bleeding is not at all diminished — but the pulse becomes more rapid — if subsultus tendinum appear & the tongue becomes more loaded & dry — If the belly is more swelled & if delirium appear —

Treatment — Mr. Barns begins his account of the treatment of puerperal fever, by deprecating the use of the lancet or when he admits it, by a most cautious & suspicious permission, which is better calculated to

frighten young practitioners from its use, than to encourage them to employ it. He says at p. 170 "but in this disease bloodletting seldom does good & often is hurtful. I am convinced, if it be used at all, it must be very early, & that it ought not to be pushed far. He continues, "whether we bleed or not, it will be proper to begin with the bark, giving it as liberally as the stomach will bear, or administering it in the form of clyster.

Happily for mankind, the light which has since been thrown on this disease by the works of Mr. Hey & Dr. Armstrong, has shewn us a path far more direct, in searching for the true & proper indications; by these gentlemen, we are taught to believe, that in the proper state or the excitive stage, nothing is so proper as free & decisive bloodletting, a practice which under their hands, has saved many patients, from an otherwise certain death.

It is hardly probable that such difference of opinion on the proper indication, in treating a disease so repeatedly submitted to the inspection of both these

gentlemen, should depend on any discrepancy of type in the case & we are much indebted perhaps to chance for the discovery of the new mode of treatment –

If we are called in the first stage of a puerperal fever (i.e.) before a reaction has commenced, it is our duty, by every moderate & cautious measure, to attempt the production of a state of reaction, by the use of warm fomentations to the abdomen, bottles of warm water or heated bricks to the feet & the free use of some warm mild diluent drink. When the pulse evidently shews an attempt on the part of the system to react, we are to use the lancet & to be directed with regard to the quantity of blood drawn, by the feelings of the patient, the diminution of pain on pressure, the softening of the pulse & even may in violent cases & good constitution push the evacuation as far as to bring on some faintness. The pulse does not always indicate the necessity of this operation.

In cases where we find much pain on pressure, a fixed supine posture, an active rapid pulse, flushed

cheeks & quick respiration, we should always have an eye to the production of a state of faintness — I would not recommend a total deliquium animi; but a feeling of faintness which does not go so far, would I apprehend, have a greater tendency to diminish the violence of the heart & arteries without endangering so much reaction as is apt to take place after entire deliquium

In recommending such a remedy & in sua a disease I would not presume to lay it down, as an indispensable operation in every case — In many cases, especially in country practice we are not called till it is too late to do any thing considerable in the way of depletion; but as a general rule, it may be regarded as one of the most valuable remedies, & a physician should have or will soon learn, the nice discriminating circumstances which call for it loudly or absolutely reject it.

I have only attempted to give here my general views on the subject of V.S., knowing that there are many circumstances in its application, which will modify

the extent to which it should be carried, but such an investigation would enlarge this inaugural thesis, beyond the proper bounds & I again would insist on its employment as a general principle.

Cathartics — From the nature of the disease, there is such an accumulation of action on the peritoneal lining of the abdomen, that the efforts of the whole system, are directed to that structure; hence we might naturally expect a torpid condition of the bowels — When to all this, we add the accumulations that have taken place, previous to the attack in the intestinal canal, the use of cathartics seems evidently pointed out to us — Accordingly we find the late experience on this subject altogether in favor of their employment — Calomel seems the best adapted to the production of strong impressions on the alimentary organs & Dr. Armstrong unhesitatingly orders a very full dose, as much as one scruple being his common prescription & often extending it as far as thirty grains — I will only say, that his experience & that of

his correspondents seem in favor of such large doses. From ten to twenty grains may, I think, be safely given followed in an hour or two, by an infusion of Senna with Sulphate magnesia or by 25 or 30 grs. of Jalap. There is little danger of hypercatharsis from medicines of this class, & we shall be the better pleased with our prescription, if it operate readily copiously; a mere soluble condition of the bowels is not our object, we want to make a powerful impression, which may change the unhealthy actions going forward & at the same time free the important viscera from an oppressive load of fecal matter. provided our medicine does not act promptly, it may be solicited by means of warm injections of some farinaceous decoction combined with oil or castile soap dissolved in water, is very much to be commended in such cases such doses will rarely fail to open the bowels, but if it should, it may be promoted by a second resort to the lancet, if the pulse admits its use — Free discharges are followed in common by a diminution of pain, an easier less disturbed respiration, moderation of the thirst

& a slower & softer pulse. While in very favorable cases the skin becomes relaxed into a condition of general perspiration. If the pain has subsided much, the pulse has grown softer & fuller, the breathing better & the chilness quite gone off, we may generally succeed, I think, by keeping the bowels in a very lax state with senna infusion & sulphate magnesia or soda, together with saline effervescing draughts & a careful attention to the avoiding all solid or stimulating aliments.

In mild cases & when the physician has an early opportunity of combatting the disease, he will have no occasion to resort to antimonials — These medicines undoubtedly possess the power of weakening the action of the heart & arteries & of disposing by this means, the exhalent vessels to the performance of their function. In case where the skin remains obstinately dry, a simple solution of Tartar in distilled water & given in doses equal to half a grain, according as the stomach will permit it more or less frequently, is perhaps as good a form as any — It has the advantage of being simple & we know while using it, what we are about, which can hardly be said of some

of the compound preparations — This preparation accompanied by the effervescing saline draught, will produce perspiration, if it be well timed —

Blisters — With regard to the use of blisters, there is much difference of opinion, some advocating them strongly & others as strongly deprecating their employment — For my own part, I should certainly apply them on principle if they can at least do no harm if used after proper depletion has brought the pulse to a softer & slower action —

The danger of exciting strangury where such powerful actions already exist, can be but slight even if it should take place, I should not consider it a mortal omen —

Thus I have given my view, concerning the nature & best mode of treating puerperal fever — Without practice or experience of my own it can hardly be expected, that I shall make new discoveries & point out improvements in an art which has been graced by the labours of great men —

If I have succeeded in laying down the most approved theory & mode of treatment, I shall be satisfied more than this would be presumptuous —